

REMARKS

Claims 25 and 26 have been cancelled to address the examiner's rejection under 35 USC 112, first paragraph. Applicants do not agree with the examiner's position, and have cancelled the claims without prejudice to pursuing them in a later filed continuation application.

Claim 29 is the sole independent claim pending in the application. The examiner has rejected claim 29 under 35 USC 103 as unpatentable in view of Reddersen, Marom '143, and Marom '095. The examiner is urged to reconsider and withdraw the rejection.

Claim 29 is directed to the use of an axicon element in an imaging scanner, i.e., one in which the an image of the bar code symbol is directed onto an imaging element (e.g., a CCD). Pages 8-9 and FIG. 8 describe an embodiment of the invention.

Axicon elements are known in connection with laser scanners, in which a spot of light is directed across the symbol, and an image of the spot is focused onto an optical detector. As described in Marom '143, Marom '095, and Katz (US 5080456), an axicon converts the spot of light into an elongated image along the optical axis, thus improving the working range of the scanner. Reddersen, the examiner's principal reference, is also concerned with laser scanners, but instead of using an axicon Reddersen uses wedge sections, each of which separately focuses the laser beam at a discrete location along the optical axis. But axicons do more with the laser beam than generate the elongated spot image. They also generate diffraction rings, which must be dealt with so that the rings do not disturb operation of the laser scanner. E.g., Katz suggests the use of a slit element to block most of the rings.

The invention's application of an axicon element in an imaging scanner is not suggested or made obvious by the prior use of such elements in laser scanners. It would not have been obvious that an axicon element could successfully improve the working range of an imaging scanner, as the axicon element could have had adverse effects on the scanner's ability to focus the bar code symbol onto an imaging element.

But most fundamentally, as far as patentability is concerned, is that none of the art of record suggest the application of an axicon in an imaging scanner, and thus claim 29 is in condition for allowance.

Applicant : Yajun Li et al.
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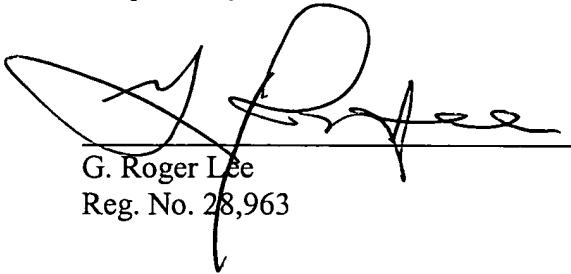
Attorney's Docket No.: 04873-065002

The remaining claims are all dependent on claim 29, and are thus allowable therewith.
Each adds one or more additional limitations that enhance patentability, but these limitations are
not presently relied upon.

Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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